GLOSSARY

Ammonia—A compound of nitrogen and hydrogen (NH_3) that is a common by-product of animal waste. Ammonia readily converts to nitrate in soils and streams.

Aquatic-life criteria—Water-quality guidelines for protection of aquatic life. Often refers to U.S. Environmental Protection Agency water-quality criteria for protection of aquatic organisms.

Aquifer—A water-bearing layer of soil, sand, gravel, or rock that will yield usable quantities of water to a well.

Atmospheric deposition—The transfer of substances from the air to the surface of the Earth, either in wet form (rain, fog, snow, dew, frost, hail) or in dry form (gases, aerosols, particles).

Bedrock—General term for consolidated (solid) rock that underlies soils or other unconsolidated material.

Bed sediment—The material that temporarily is stationary in the bottom of a stream or other watercourse.

Concentration—The amount or mass of a substance present in a given volume or mass of sample. Usually expressed as microgram per liter (water sample) or micrograms per kilogram (sediment or tissue sample).

Confined aquifer (artesian aquifer)—An aquifer that is completely filled with water under pressure and that is overlain by material that restricts the movement of water.

Confining layer—A layer of sediment or lithologic unit of low permeability that bounds an aquifer,

Contamination—Degradation of water quality compared to original or natural conditions due to human activity.

Degradation products—Compounds resulting from transformation of an organic substance through chemical, photochemical, and/or biochemical reactions.

Denitrification—A process by which oxidized forms of nitrogen such as nitrate (NO_3^-) are reduced to form nitrites, nitrogen oxides, ammonia, or free nitrogen: commonly brought about by the action of denitrifying bacteria and usually resulting in the escape of nitrogen to the air.

Detect—To determine the presence of a compound.

DDT—Dichloro-diphenyl-trichloroethane. An organochlorine insecticide no longer registered for use in the United States.

Drainage area—The drainage area of a stream at a specified location is that area, measured in a horizontal plane, which is enclosed by a drainage divide.

Drinking-water standard or guideline—A threshold concentration in a public drinking-water supply, designed to protect human health. As defined here, standards are U.S. Environmental Protection Agency regulations that specify the maximum contamination levels for public water systems required to protect the public welfare; guidelines have no regulatory status and are issued in an advisory capacity.

Eutrophication—The process by which water becomes enriched with plant nutrients, most commonly phosphorus and nitrogen.

Fecal bacteria—Microscopic single-celled organisms (primarily fecal coliforms and fecal streptococci) found in the wastes of warm-blooded animals. Their presence in water is used to assess the sanitary quality of water for body-contact recreation or for consumption. Their presence indicates contamination by the wastes of warm-blooded animals and the possible presence of pathogenic (disease producing) organisms.

Flow path—An underground route for ground-water movement, extending from a recharge (intake) zone to a discharge (output) zone such as a shallow stream.

Ground water—In general, any water that exists beneath the land surface, but more commonly applied to water in fully saturated soils and geologic formations.

Herbicide—A chemical or other agent applied for the purpose of killing undesirable plants. See also Pesticide.

Insecticide—A substance or mixture of substances intended to destroy or repel insects.

Intolerant organisms—Organisms that are not adaptable to human alterations to the environment and thus decline in numbers where human alterations occur.

Invertebrate—An animal having no backbone or spinal column.

Major ions—Constituents commonly present in concentrations exceeding 1.0 milligram per liter. Dissolved cations generally are calcium, magnesium, sodium, and potassium; the major anions are sulfate, chloride, fluoride, nitrate, and those contributing to alkalinity, most generally assumed to be bicarbonate and carbonate.

Maximum contaminant level (MCL)—Maximum permissible level of a contaminant in water that is delivered to any user of a public water system. MCLs are enforceable standards established by the U.S. Environmental Protection Agency.

Median—The middle or central value in a distribution of data ranked in order of magnitude. The median is also known as the 50th percentile.

Metamorphic rock—Rock that has formed in the solid state in response to pronounced changes of temperature, pressure, and chemical environment.

Method detection limit—The minimum concentration of a substance that can be accurately identified and measured with present laboratory technologies.

Micrograms per liter (µg/L)—A unit expressing the concentration of constituents in solution as weight (micrograms) of solute per unit volume (liter) of water; equivalent to one part per billion in most streamwater and ground water. One thousand micrograms per liter equals 1 mg/L.

Milligrams per liter (mg/L)—A unit expressing the concentration of chemical constituents in solution as weight (milligrams) of solute per unit volume (liter) of water; equivalent to one part per million in most streamwater and ground water. One thousand micrograms per liter equals 1 mg/L.

Minimum reporting level (MRL)—The smallest measured concentration of a constituent that may be reliably reported using a given analytical method. In many cases, the MRL is used when documentation for the method detection limit is not available.

Monitoring well—A well designed for measuring water levels and testing ground-water quality.

Nitrate—An ion consisting of nitrogen and oxygen (NO_3^-). Nitrate is a plant nutrient and is very mobile in soils.

Nutrient—Element or compound essential for animal and plant growth. Common nutrients in fertilizer include nitrogen, phosphorus, and potassium.

Pesticide—A chemical applied to crops, rights of way, lawns, or residences to control weeds, insects, fungi, nematodes, rodents or other "pests."

Phosphorus—A nutrient essential for growth that can play a key role in stimulating aquatic growth in lakes and streams.

Study Unit—A major hydrologic system of the United States in which NAWQA studies are focused. Study Units are geographically defined by a combination of ground- and surface-water features and generally encompass more than 4,000 square miles of land area.

Trace element—An element found in only minor amounts (concentrations less than 1.0 milligram per liter) in water or sediment; includes arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc.

Unconfined aquifer—An aquifer whose upper surface is a water table; an aquifer containing unconfined ground water.

Volatile organic compounds (VOCs)—Organic chemicals that have a high vapor pressure relative to their water solubility. VOCs include components of gasoline, fuel oils, and lubricants, as well as organic solvents, fumigants, some inert ingredients in pesticides, and some by-products of chlorine disinfection.

Water table—The point below the land surface where ground water is first encountered and below which the earth is saturated. Depth to the water table varies widely across the country.